AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior listings and versions:

1-23. (canceled).

24. (currently amended) A plant host cell or transgenic plant comprising

(i) a polynucleotide encoding ~~an engineered~~ a zinc finger polypeptide comprising at least two zinc fingers, each zinc finger comprising a binding motif comprising the amino acid sequence

X^a **C** X_{2-4} **C** X_3 F X^c X X X X L X X **H** X X X^b **H** - linker (SEQ ID NO: 22)

wherein each of X, X^a, X^b, X^c is any amino acid, the numbers in subscript indicate possible numbers of residues, and X X X X L X X **H** X X between X^c and X^b are designated positions -1, 1, 2, 3, 4, 5, 6, 7, 8, and 9; and

(ii)a target DNA sequence,

wherein at least one binding motif has been engineered to bind to the target DNA sequence ~~to which the zinc finger polypeptide binds~~.

25. (canceled)

26. (canceled)

27. (currently amended) The plant host cell or transgenic plant of claim ~~26~~ 24 wherein X^a is E, K, T, S, Q, V, A or P, X^b is T or I, X^c is S or T, X_{2-4} is two amino acids, with the first of which being S, E, K, T, P, or R, and the second amino acid being E, and the linker is T-G-E-K (SEQ ID NO: 23) or T-G-E-K-P (SEQ ID NO: 24), and position 9 is Arg or Lys, and positions 1, 5, and 8 are hydrophobic amino acids and not Phe, Trp or Tyr.

28. (currently amended) The plant host cell or transgenic plant of claim ~~26~~ 24 wherein one or more the zinc fingers binds to a target DNA triplet in accordance with the following:

(a) if the 5' base in the triplet is G, then position 6 is Arg or position ++2 is Asp or position 6 is Arg and position 2 is Asp;

(b) if the 5' base in the triplet is A, then position 6 is Gln or Glu and ++2 is not Asp;

(c) if the 5' base in the triplet is T, then position 6 in is Ser or Thr and position ++2 is Asp or position 6 is a hydrophobic amino acid other than Ala;

(d) if the 5' base in the triplet is C, then position 6 in may be any amino acid, provided that position ++2 is not Asp;

(e) if the central base in the triplet is G, then position 3 is His;

(f) if the central base in the triplet is A, then position 3 is Asn;

(g) if the central base in the triplet is T, then position 3 is Ala, Ser, Ile, Leu, Thr or Val provided that if it is Ala, then one of the residues at -1 or 6 is a small residue;

(h) if the central base in the triplet is 5-meC, then position 3 is Ala, Ser, Ile, Leu, Thr or Val provided that if it is Ala, then one of the residues at -1 or 6 is a small residue;

(i) if the 3' base in the triplet is G, then position -1 is Arg;

(j) if the 3' base in the triplet is A, then position -1 is Gln and position 2 is Ala;

(k) if the 3' base in the triplet is T, then position -1 is Asn or position -1 is Gln and position 2 is Ser;

(l) if the 3' base in the triplet is C, then position -1 is Asp and position 1 is Arg; and,

when the central residue of a target triplet is C, the use of Asp at position 3 allows preferential binding to C over 5-meC; and,

wherein "++" residues are residues present in a C-terminal adjacent zinc finger, and when there is no C-terminal adjacent zinc finger, "++" interactions do not operate.

29. (currently amended) The plant host cell or transgenic plant of claim ~~26~~ 24 wherein there is an N-terminal zinc finger having a leader peptide MAEEKP (SEQ ID NO: 27) added thereto.

30. (withdrawn) The plant host cell or transgenic plant of claim ~~25~~ 24 wherein one or more of the zinc fingers of the polypeptide comprises a mutated model zinc finger domain.

31. (withdrawn) The plant host cell or transgenic plant of claim 30 wherein the model zinc finger domain is a zinc finger from a protein selected the group consisting of Zif268, GLI, Tramtrack, or YY1.

32. (currently amended) The plant host cell or transgenic plant of claim ~~25~~ 24, wherein the zinc finger polypeptide has more than three zinc fingers.

33. (previously presented) The plant host cell or transgenic plant of claim 32 wherein the zinc finger polypeptide has four, five, six, seven, eight or nine zinc fingers.

34. (canceled)

35. (previously presented) The plant host cell or transgenic plant of claim 24, wherein the target DNA sequence is operably linked to a coding sequence.

36. (previously presented) The plant host cell or transgenic plant of claim 35, wherein transcription of the coding sequence is regulated by binding of the zinc finger polypeptide to the target DNA sequence.

37. (previously presented) The plant host cell or transgenic plant of claim 24, wherein the target DNA sequence is part of an endogenous sequence.

38. (currently amended) The plant host cell or transgenic plant of claim ~~24~~ 35, wherein the target DNA sequence and the coding sequence are heterologous to the cell.

39. (previously presented) The plant host cell or transgenic plant of claim 24, wherein the zinc finger polypeptide is fused to a transcriptional activator domain.

40. (canceled)

41. (currently amended) The plant host cell or transgenic plant of claim [[40]] 39 wherein the transcriptional activator domain comprises a VP16 transcriptional activator domain.

42. (currently amended) The plant host cell or transgenic plant of claim [[40]] 39 wherein the transcriptional activator domain comprises a VP64 transcriptional activator domain.

43. (withdrawn) The ~~transgenic~~ plant host cell or transgenic plant of claim ~~25~~ 24, wherein the zinc finger polypeptide is fused to a transcriptional repressor domain.

44-47. (canceled)

48. (currently amended) The plant host cell or transgenic plant of claim ~~25~~ 24, wherein the zinc finger polypeptide is fused to a ~~biological effector~~ catalytic domain of a restriction enzyme.

49. (previously presented) The plant host cell or transgenic plant of claim 24 which is a transgenic plant.

50. (previously presented) The plant host cell or transgenic plant of claim 24 which is a plant host cell.

51 to 70. (canceled).

71. (new) The plant host cell or transgenic plant of claim 24, wherein the second His residue is replaced by Cys.